PrEP in Prisons: HIV prevention in incarcerated populations

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Abstract

Purpose: The purpose of this paper is to discuss the possibility of using pre-exposure prophylaxis (PrEP) as a HIV harm reduction intervention in prisons. PrEP is primarily discussed in relation to men who have sex with men (MSM), meaning other high-risk populations, such as prisoners, are often side-lined. The authors wanted to consider how it could prove beneficial beyond the MSM community.

Approach: First, the authors discuss whether the common objections to existing HIV harm reduction interventions in prisons, such as needle exchanges, are applicable to PrEP. The authors then apply common objections to the provision of PrEP in the general population to the provision of PrEP in a prison context in order to assess their strength. Finally, the authors discuss what the authors anticipate to be a key objection to PrEP in prisons: post-incarceration access.

Findings: The authors argue that both sets of common objections considered are easily refuted in the case of PrEP in prisons. The unique setting and nature of the intervention are such that it is without immediately apparent flaws. In addressing post-incarceration access, the authors suggest that a longitudinal consideration of a prisoner's HIV risk undermines the objection.

Originality/value: This discussion is of importance due to the significantly heightened risk of HIV infection prisoners are subject to. Not only do effective HIV prevention interventions in prisoners contribute to fair access to health for incarcerated individuals, but also to the wider fight against HIV.

The authors demonstrate that PrEP has potential as a new approach and call for further research in this area.

Key words: HIV, Offender health, Medical ethics, Injecting drug use, Harm reduction, Needle exchange

Introduction

Emtricitabine/tenofovir, a form of pre-exposure prophylaxis (PrEP), can significantly reduce the risk of HIV infection in individuals who are at high risk. However, it is discussed predominantly in relation to the risk of HIV infection from sexual contact within the men who have sex with men (MSM) community, even though other high-risk population groups would benefit from access.

One such population is incarcerated persons. Reports show incarcerated individuals to be substantially more likely to be infected with HIV than the general public (Baker, 2018). This is in large part due to an overrepresentation of substance dependency in prisoners alongside a lack of accessible treatment and harm reduction programmes. The global prison population has grown by 20 per cent in the last decade, outpacing population growth, with a substantial proportion of this population serving time for drug-related offences (Harm Reduction International, 2018). The need for effective and acceptable interventions targeted at those with a drug dependency is evident.

The World Health Organization (WHO) recommends PrEP for population groups at substantial risk of HIV infection (World Health Organization, 2016), and prisoners undoubtedly fulfil this criterion. Information that delineates which cohorts would benefit from PrEP consistently includes intravenous drug users. In 2017, the WHO highlighted the necessity to ensure that prisoners have access to equitable services to reduce the global burden of HIV and AIDS (World Health Organization, 2017). The provision of PrEP therapy is one possible mechanism to further the overarching global goal of ending AIDS, meriting further engagement and discussion in prison healthcare provision.

We present several strong reasons for the provision of PrEP to incarcerated individuals to be considered. First, we look to the shortcomings of existing HIV harm reduction efforts in prisons and consider their applicability to PrEP. We then take common objections to the provision of PrEP generally and assess their relevance in a prison context. Both sets of objections are shown to be irrelevant or weak when considering the provision of PrEP in prisons. Finally, we refute the specific objection of post-incarceration access to PrEP, thus highlighting the strong justification for the serious consideration of the intervention. In doing so, we conclude the need for PrEP discourse to better include prison populations.

Needle exchanges

Currently, the main HIV prevention intervention discussed for prisoners is needle exchange. This has existed as an approach since the 1990s, but with limited uptake (Glauser, 2013). Whilst proven both cost-effective and successful in reducing the risk of infectious disease transmission, the implementation of clean needle exchanges in prisons in various jurisdictions is lacking. This is often due to assumptions that providing inmates with clean needles condones drug consumption, is counter to prison policies, or could result in weaponization against the staff. Whilst these objections are unsubstantiated, alternative and complementary harm reduction programs are needed for those at high risk of HIV transmission in prisons. PrEP has the potential to be such an option, avoiding the common barriers to the implementation of clean needle exchanges.

Needle exchanges in prisons vary in their operational design but are similar in that they provide inmates with access to clean needles for the purpose of drug injection. Whilst prison systems are viewed as “closed-systems”, drug use is common. Clean needle exchanges act as one harm reduction mechanism to address the increased risk of infection from drug use, with their effectiveness having been established by decades of research. However, just 60 prisons out of more than 10,000 worldwide have implemented programmes in the past 20 years (Glauser, 2013).

Rather than needle exchanges, many prisons instead distribute bleach to sterilize drug use equipment. Despite its widespread use, bleach distribution has been deemed ineffective in mitigating the risk of HIV transmission and is recommended by the WHO only as a second-line strategy (World Health Organization et al, 2007). In the hierarchy of harm reduction measures related to drug injection and HIV, needle exchanges are considered most effective, with bleach programs providing a complementary service but not a replacement. Despite being deemed the better method, clean needle exchanges remain scarce. The introduction of PrEP in prisons might address this lack of implementation and provide an approach to HIV harm reduction which does not come up against the common barriers that needle exchange programmes do.

Condoning and encouraging drug use

Though intended as a means of harm reduction rather than rehabilitation, needle exchanges have been viewed as facilitating and condoning drug use among prisoners by those opposed to their implementation (World Health Organization et al, 2007). There are also concerns that such interventions may also condone drug use by prison staff. These beliefs have limited needle exchange programme introduction in prisons across the world despite substantial evidence that access to sterilized equipment does not result in an increased number of injecting drug users, an increase in overall drug use, or an increase in the amount of drugs in prisons (World Health Organization et al, 2007). This issue has come to fruition most recently in Canada, where two federal pilot programmes announced for clean needle exchanges were met with resistance by prison staff and management as condoning drug use in prisons (Woo, 2018).

With over two decades of circular dialogue regarding clean needle programmes as encouraging and condoning drug use despite evidence to the contrary, the introduction of PrEP therapy has the potential to fulfil the purpose of clean needle programmes whilst avoiding these common concerns. A method of HIV harm reduction which utilises medication rather than providing

drug use tools better aligns with prison policies and avoids concerns that its introduction directly condones drug use. Whilst an ideal scenario which furthers prison health would be the introduction of clean needle exchanges, bleach, and PrEP therapy access, the lack of available services over the decades suggests that it is optimistic to expect all three.

Some critics may hold that the provision of PrEP may encourage or condone drug use and is therefore counter to prison policies, though we hold that this claim is unsubstantiated. As with other harm reduction measures which are criticised for condoning drug use, PrEP is a necessary interim strategy in combatting the negative repercussions of substance dependency. Risky drug use will take place in prisons regardless of whether clean needles can be accessed and/or PrEP therapy is administered. The administration of PrEP therapy does not condone drug use but acts to stem the transmission of infectious disease, which minimizes the burden of disease on both the healthcare and prison systems.

The administration of PrEP is fundamentally different from the provision of clean needle exchanges and this difference removes the concern of enabling drug use. PrEP is a pill which is taken orally. Its administration is not directly connected to the behaviour it seeks to minimize harms from (intravenous drug use), which cannot be said for clean needle exchanges. The administration of a pill compared to supplying the tools needed to consume drugs is considerably less problematic in terms of encouraging drug use and more readily maps onto prison policies than supplying clean needles.

Weaponization of needles

A further consideration which may position PrEP as a potentially suitable alternative, addressing common barriers to clean needle exchanges programmes, is that it cannot be weaponized against staff and other inmates. Clean needle programmes have been met with resistance due to fears that access

to needles provides inmates with access to a weapon which could endanger prison staff and other inmates.

A WHO review of 55 European prison needle exchanges found no instances of clean needles being used as weapons against staff or other inmates (Glauser, 2013). Whilst a thorough analysis of all clean needle exchange programmes globally is needed to determine whether these findings are consistent across jurisdictions, it highlights the stigmatization that follows clean needle distribution programmes.

This common concern and associated stigma are non-starters in the introduction of PrEP, as the pill cannot be weaponised.

Poor uptake

A final barrier to needle exchange programmes is a lack of uptake by prisoners in those jurisdictions where clean needles are available. This issue arises after clean needle programmes have been introduced and stems from problems with how clean needles are dispensed to inmates seeking access. Prisoners are reluctant to use clean needle exchanges in prisons, as accessing this service can have negatives consequences. Accessing this form of harm reduction can result in disciplinary repercussions by staff or being flagged in the internal system as a drug user, which can cause further stigmatization and negative stereotyping (Jurgens et al, 2009).

PrEP is unlikely to suffer this fate. As it is a preventative medication rather than a tool used in the administration of drugs, taking PrEP does not necessarily suggest drug use in the way requesting clean needles does. Whilst further research is needed to determine likely PrEP uptake and acceptability in prisons, we believe that barriers to uptake found with needle exchange programmes will not present in the case of PrEP.

PrEP as harm reduction

Despite evidence that PrEP is an efficacious drug (Grant et al, 2010; McCormack et al, 2016), it is available in only a handful of countries and for few populations. This is for several reasons, which differ depending on the population concerned. There are, however, three key objections to PrEP provision which are consistently raised: risk compensation, adherence, and cost-effectiveness. We will deal with each in turn, demonstrating that all three are likely to be irrelevant where prisoners are concerned.

Risk compensation

A common objection to the provision of PrEP for those at high risk of HIV is risk compensation. The theory of risk compensation supposes that individuals have personal target levels of risk which they aim not to exceed (Wilde, 1982). Thus, where an intervention lowers risk, there is room for increased risk behaviour. This is individual risk compensation, and in the context of PrEP could mean an increase in condomless sex or a decrease in efforts to obtain clean needles, depending on the population group concerned. This objection argues that the provision of PrEP is enabling, and perhaps even encouraging, negative behaviour.

There is also an issue with potential community-level risk compensation, or 'prevention optimism', where PrEP is used to reduce the risk of HIV infection through sexual contact (Holt et al, 2018). Prevention optimism is where those who are not themselves using PrEP begin to engage in riskier behaviour on the assumption that enough other members of the population group are on PrEP; these individuals perceive a sort of herd immunity and thus feel safe in increasing their risk. Whilst the purpose of the introduction of PrEP in prisons would be for the prevention of HIV infection through the use of intravenous drugs, it would also protect inmates against infection through sexual contact. It is, then, still important to address this objection.

Individual risk compensation is unlikely to be a problem in prison populations as there is little room for an increase in risky behaviour among inmates. Those who are intravenous drug users are already using dirty needles regularly due to the problems with needle exchange programmes already discussed, or because of lack of access to clean needles.

As for the risk of infection through sexual activity, there is already an issue with access to condoms for inmates. Sexual activity is frequently frowned upon in prisons, with prison officers attempting to stop it. In the UK, for instance, sexual activity is not prohibited in prisons, but the prohibition on sexual activity in public places may be used to deny access to condoms (HM Prison & Probation Service, 2018; Howard League for Penal Reform, 2013). Where prisoners have no means to access condoms, it is not possible for them to increase their risk by choosing not to use them. The only way for sexual risk compensation to take place at the individual level, then, is by prisoners engaging in more condomless sex; some may not engage in such activities due to a fear of HIV infection, and the availability of PrEP could remove this fear. This is unlikely to be the case for a significant proportion of prisoners. In the absence of ready access to condoms, then, PrEP would be a suitable means of harm-reduction on this front too.

Community- and population-level concerns are even less relevant in prison populations. This is due to the contained nature of this population group. In the absence of data, it is fair to assume that most prisoners would, if presented with the option, choose to take PrEP. This limits the wider population that may be affected to the few who choose not to. Whilst it is certainly possible for this minority to be affected by prevention optimism, this is not going to noticeably increase their risk of HIV infection because they are already at such a high risk and have limited means by which to reduce it.

Risk compensation, then, in the absence of data, does not appear to be a valid objection to the provision of PrEP in prisons at the individual-, community-, or population-level. The very high risk of HIV-infection prisoners are already at leaves little room for them to increase it through behavioural

change, whilst PrEP would decrease it significantly. Against this objection, PrEP holds as an ethically sound intervention.

Adherence

One thing there is agreement on regarding PrEP is the efficacy of the drug. Studies vary, though PrEP is generally believed to > 90 per cent efficacious. However, for this level of protection it is essential that users are fully adherent to daily dosing. Whether this is a realistic expectation in real world conditions is debated (Myers and Sepkowitz, 2013).

As debate continues over what level of adherence can be expected of users, so does it over the ethical implications of poor adherence. It becomes a harm-benefit calculation; if users are not fully adherent they are not getting the intended protection, and where poor adherence and risk compensation are found concurrently there is a potential for significant harm to PrEP users (i.e. a greater risk of HIV infection than before starting PrEP).

This is a legitimate ethical concern. To justify an intervention such as PrEP, it is important to have strong evidence of effectiveness which, naturally, entails strong adherence in users. In prison populations, however, concerns over adherence are irrelevant.

Concern over poor PrEP adherence arises because PrEP is a daily pill, and some users may struggle to get into the habit of taking it. Adherence may prove yet more challenging for those who do not have a strong sense of routine in their daily life. The nature of a prisoner's routine removes this concern. Whilst prisoners could not justifiably be forced to take PrEP, it would be a simple task for prison staff to provide the daily pill to all inmates at a fixed time each day. Therefore, poor adherence in prison populations would be the result of an active choice not to take the pill.

Both uptake and adherence could be aided by the provision of appropriate information to inmates. With the introduction of a PrEP programme in a prison, the benefits of the drug, as well as

the side-effects, could be made clear to prisoners so they can make the decision to commence PrEP in an informed manner. This would, of course, have to be done objectively to avoid any risk of individuals being coerced into commencing PrEP, though it seems reasonable to assume that with provision of relevant information uptake would be high. As for the method of deliverance for this information, the preferable environment would be an individual consultation with a health care professional rather than a group presentation setting so that inmates feel more comfortable asking questions.

Further research is required to assess likely uptake of PrEP in incarcerated populations, though we suggest that it is likely to be high. Of those who do commence PrEP, adherence would not be problematic with the assistance of prison staff in addition to education prior to the first dose. The adherence objection, then, falls apart when PrEP is considered as an intervention for prison populations.

Cost-effectiveness

Decision-makers inevitably seek financial justification above all else. As such, for PrEP to be introduced in prisons it needs to be cost-effective. A full cost-effectiveness analysis is beyond the scope of this paper, though we will provide an indication that financial savings are likely.

Whilst there is debate over the cost-effectiveness of PrEP outside of prisons, where it would be aimed at populations at high risk of HIV infection through sexual contact, existing studies do suggest that savings are to be expected (Cambiano et al, 2018). If savings are likely outside of prison, then they ought to be greater inside prisons. This is due to the greater prevalence of HIV infection among incarcerated individuals; the number needed to treat would be far lower in a prison. There is also the fact that savings outside of prisons will be limited by risk compensation and adherence issues, which we believe are unlikely to occur in prisons.

Further, with the recent expiration of the patent on Truvada (branded PrEP), a PrEP intervention in prisons would benefit from the competitive pricing of generics. This would make the financial savings far greater.

Where an issue might arise is in responsibility for costs. The lifetime cost of HIV treatment would be borne by the healthcare system, whereas the cost of PrEP in prisons may fall to the prison system. This could act as a disincentive for prisons to introduce PrEP. It is, however, inappropriate for such an issue to present an obstacle to evidence-based healthcare in prisons. Further, it would not be an issue in all jurisdictions.

It is very likely that the implementation of a PrEP programme in prisons would result in a significant financial saving, assuming strong enough uptake and adherence. It is this point that is likely to speak most strongly to decision-makers. For that reason, it is important that a more thorough cost-effectiveness analysis be carried out to ascertain just how significant a saving can be made through this intervention.

Post-incarceration access

There is one objection to the provision of PrEP in prisons we anticipate arising, which may make the intervention ethically problematic. What happens when a prisoner is released and may no longer have access to PrEP?

Given the fact that PrEP availability is so limited it is quite likely that if a prisoner had access to the drug whilst incarcerated, they would not continue to have access upon release. This applies especially to those who are not MSM, as where PrEP is available it is targeted almost exclusively at this population. However, this ethical issue is quite easily rebutted.

It is important to remember just how much an individual's risk of HIV infection increases when incarcerated. If an individual is an intravenous drug user, they are at a heightened risk of infection

relative to the whole population. When incarcerated, the disparity grows yet further. Then, upon release, that individual's risk drops again but remains high relative to the whole population (if that individual does not become infected with HIV whilst incarcerated and remains an intravenous drug user upon release).

Let us consider the individual's risk of HIV before incarceration as the baseline. If PrEP were provided to that individual whilst in prison, their risk of infection post-incarceration would not alter, but their risk of infection during incarceration would drop significantly; the individual's risk in prison decreases rather than increases, before returning to the baseline. The provision of PrEP in prisons, then, does not affect the individual's risk of HIV infection post-release but can drastically reduce a prisoner's risk whilst incarcerated. Further, providing prisoners with PrEP means they are far less likely to be HIV-positive upon release, thus posing a lesser risk to the wider population.

Post-incarceration access may pose a greater issue if incarceration presented only a small increase in the risk of HIV infection, but the increase in risk is too great to allow this objection any decisional sway. It is misplaced, therefore, to suggest that the increased risk of infection upon release is a valid ethical objection; when account is taken of the situation more broadly, it is quite clear that PrEP affords prisoners more benefit than harm even if there is no post-incarceration access.

Conclusion

HIV is undoubtedly a substantial and immediate concern in the health of prison populations. Whilst harm reduction efforts have been made in various countries, infection rates remain significantly higher than outside prisons. The natural next step is to explore the potential of PrEP in prisoner care, which could be complementary to, and indeed less problematic than, other harm reduction measures whilst mapping onto overarching prison policies. This could not only reduce the risk of infection from the use

of intravenous drugs, but also condomless sex, whereas previous efforts have been aimed only at the former.

Common objections to the provision of PrEP do not appear to be applicable to prison populations; risk compensation cannot take place, adherence is easily monitored in a prison setting, and there is good reason to expect financial savings. This is down to the contained nature of incarcerated populations and structured environment in which programming takes place.

If further research does indicate PrEP as effective in a prison setting, provision of the drug should not be viewed by justice systems as "ticking the HIV box". Efforts must continue to address the underlying issues, such as rehabilitating inmates with drug dependencies and ensuring that individuals access community support upon release. Given the fact PrEP is unlikely to be available to inmates following release, rehabilitation is key in ensuring they do not return to a high risk of infection once they leave prison. It is also important that PrEP, if provided, be provided as an additional intervention and not a replacement. As PrEP protects only against HIV infection, the increased risk of Hepatitis C which prisoners find themselves at is not mitigated by the drug. Despite the limited effectiveness of existing approaches, such as needle exchanges, they ought not to be discontinued or ruled out if PrEP is introduced; even if uptake is minimal, needle exchanges can also protect prisoners against the risk of other blood-borne infections.

Of course, the success of PrEP in prisons rests on uptake and adherence; inmates would need to agree to PrEP for it to work. A study to ascertain likely uptake is essential, though in the meantime it is reasonable to assume a high proportion would choose to take PrEP if relevant information were appropriately provided given the clear benefits it presents.

Whilst we have not demonstrated that PrEP would be effective in a prison setting – indeed, this was not our intention – we have highlighted its potential and thus an important new direction for the PrEP debate to take. There are still questions that need to be answered before the implementation of PrEP in prisons, and studies are required. Nonetheless, in highlighting the potential of such an

intervention and demonstrating the current lack of substantial objections, we have set the ball rolling for further engagement with this topic.

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